

Association for Information Systems AIS Electronic Library (AISeL)

ECIS 2011 Proceedings

European Conference on Information Systems
(ECIS)

Summer 10-6-2011

IT PROJECT PRIORITIZATION – A MATTER OF INTUITION AND TRUST

Arisa Shollo

Karlheinz Kautz

Follow this and additional works at: <http://aisel.aisnet.org/ecis2011>

Recommended Citation

Shollo, Arisa and Kautz, Karlheinz, "IT PROJECT PRIORITIZATION – A MATTER OF INTUITION AND TRUST" (2011). *ECIS 2011 Proceedings*. 172.
<http://aisel.aisnet.org/ecis2011/172>

This material is brought to you by the European Conference on Information Systems (ECIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ECIS 2011 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

IT PROJECT PRIORITIZATION – A MATTER OF INTUITION AND TRUST

Shollo, Arisa, Copenhagen Business School, Department of Informatics, Howitzvej 60, DK-2000 Frederiksberg, Denmark, as.inf@cbs.dk

Kautz, Karlheinz, Copenhagen Business School, Department of Informatics, Howitzvej 60, DK-2000 Frederiksberg, Denmark, khk.inf@cbs.dk

Abstract

Organizations generally have a variety of IT projects to implement, but only limited resources to develop them. As information technology and systems pervade organizations, the pool of potential IT projects is continually increasing. In this paper, we explore IT project prioritization practices in a real life context and contrast them with the rational approaches which dominate the IS literature. We present a case study conducted in a large Scandinavian financial institution in which we found that the IT project prioritization process involved an informal way of generating and collecting project ideas and that several types of constraints limited the number of projects as well the type of projects. The study shows that calculated, financial benefits are not used for prioritization, that intangible benefits are very important despite not being measured and that alternatives approaches based on intuition and trust govern the prioritization process. Our results, supported by other research studies, open up new paths for the discussion of the nature of IT project prioritization and for the improvement of a prioritization process which is based less on rational considerations and more on a balanced approach of instinct, faith and contextual reasoning which also takes tangible, calculated benefits into account. We suggest for future work a further investigation of the relationship between these elements in the context of IT project prioritization.

Keywords: IT project prioritization, IS evaluation, intuition, trust.

1 Introduction

As information technology and systems pervade organizations, the pool of new IT-related ideas and potential IT projects is continually increasing. Organizations have numerous needs and many ideas for IT projects, but only limited resources to implement them. Within these constraints, choices must be made in building a suitable project portfolio (Archer and Ghasemzadeh 1999). The significant growth of information systems and technology investments and the financial crisis have put pressure on decision makers to appropriately and convincingly justify their IT projects.

The justification of investing in IT projects is even more complex due to the ubiquity of IT in modern organizations. Because IT is such an integral part of all business processes and products it can be very difficult to delineate and thus evaluate its impacts (Smithson & Hirschheim 1998).

The aim of the present case study is to understand IT project prioritization as part of a decision making process of proposed IT projects for a portfolio in a specific IT organization. This work is part of a larger project that aims to improve the prioritization decision-making process. The organization studied is a division of a large Scandinavian financial institution and the study presents a small portion of its organizational life. In our study, we uncover and explore the current IT project prioritization practices in the organization and contrast them with the rational approaches which dominate the IS literature, finding instead that alternative approaches based on intuition and trust govern the prioritization process. Our results are supported by other research studies and open up new paths for the discussion on the nature of IT project prioritization and for the possibility of a prioritization process based less on rational considerations and more on a balanced approach of instinct, faith and reason.

The remainder of the paper is structured as follows. Section 2 presents the background for the study. Section 3 describes the methodology used to conduct the study. In section 4, we illustrate the case setting. Section 5 presents the results of the research. In section 6, we discuss the findings and in section 7 we present the conclusions and future research directions.

2 Background

The subject of project prioritization has been extensively covered by the R&D management, operation management and management science literature. These disciplines have been addressing the problem of project prioritization from the 1960s and many methods have been developed, though not very successfully adopted by managers (Martino 1995). The studies performed in these disciplines are prescriptive and financial mathematical models dominate as a solution to project prioritization in general (Bunch et al. 1989, Cook & Green 2000, Doyle 1995, Oral et al. 1991).

While there is much commercial advice available on prioritizing IT projects and project portfolio management from a business strategy perspective, the specific phenomenon appears to be understudied within the IS literature. There is, however, an extensive body of IS evaluation literature and we turn to this literature for grounding, as evaluation is a key component of IT project prioritization.

Two forms of IS evaluation are identified in the IS evaluation literature. Ex ante evaluation is the evaluation of initiatives, projects or investments before their actual implementation. Ex ante evaluation is intended to answer the questions of what, why, and how organization should invest in IS (Al-Yassen & Eldabi 2004), in other words justifying the investment of resources in IT projects. It is also described as “predictive evaluation” because it is based on estimated calculations of costs and expected benefits (Remenyi & Sherwood-Smith 1999). Ex post evaluation involves the evaluation of IT projects after their implementation, following up on the benefits actually achieved against the estimated benefits during the ex ante evaluation. We aim to contribute to the understanding of the ex ante evaluation process.

Organisations, in an attempt to justify IS investments, have borrowed methods from other disciplines such as finance, accounting and economics (Nagm & Kautz 2007). These methods have been subject of extended criticism from IS scholars, however, because of their narrow view of the nature of IS and its impacts (Lubbe & Remenyi 1999, Nagm & Kautz 2007, Powell 1990, Howcraft & McDonald 2004, Irani & Ghoneim 2002, Nagm & Cecez-Kecmanovic 2008). There is some agreement in the literature that existing IS evaluation methods based on financial methods for the assessment of manufacturing capital equipment are inappropriate for the evaluation of IT.

The financial methods used for IS evaluation are characterized by a rational, objective, and scientific approach based on the assumption that IT projects contribute to “specific ends, ends that can be articulated, are shared and are objective” (Howcraft & McDonald 2004). However, a number of researchers argue that the process of IS evaluation is both subjective and contextual (Hirschheim & Smithson 1988, Howcraft & McDonald 2004, Nagm & Cecez-Kecmanovic 2008, Nagm & Kautz 2007).

Others point out that the nature and combination of benefits and costs that IT projects provide is very different from the nature and mix of benefits and costs of other industries i.e. the manufacturing industry (Irani & Love 2001). Intangible and non-financial benefits comprise a large portion of the gains of IT projects and it is nearly impossible to identify the size of the hidden and indirect costs before the development and implementation of IT projects. It is the inability of the traditional evaluation techniques to capture the intangible benefits and the hidden and indirect cost of IT projects that makes them insufficient for evaluating IT projects (Farbey et al. 1992; Maskell 1991). Instead, according to Bannister & Remenyi (2000), these limitations of existing evaluation methods force decision makers to rely on ‘gut feeling’ in IT-related matters.

Given this context, the purpose of this study is to expand on existing understandings of the IS evaluation process by studying how such evaluations are actually put into practice during IT project prioritization, and how this could be improved. In particular, based on a rational approach, once the evaluation is in place the prioritization should be straightforward. Depending on the method employed, the projects with higher scores should simply be prioritized over the projects with lower scores. In order to challenge this view, we present a case study examining evaluation and prioritization in practice, as well as the relationship between the two.

3 Case Setting

The organization studied is a Scandinavian financial institution. Historically, the organization is recognized as a successful financial company holding a considerable share of the market. The study was conducted on site at its IT organization. The IT organization is in charge of standardizing and automating processes as well as developing IT-based systems. The IT organization comprises seven development areas (DA), which are headed by a chief information officer (CIO). Development directors (DD) are in charge of managing the development areas, each of which is divided into different IT departments (Dep) as shown in Figure 1. A development manager (DM) is acting as head of each department. In all, there are 38 IT departments employing a total of 2300 employees. The departments are organized as a matrix in which one dimension made up of development projects (P) and the other dimension consists of system management areas (SMA), an organizational unit responsible for operating and maintaining a set of existing systems where the work is divided in tasks.

The official project prioritization process is described under the umbrella of IT governance. Figure 2 presents the official IT governance structure that controls resource allocation, budget and development planning. System working groups (SWG) consist of the system managers of a department and business managers from the relevant business area. The members of the SWG are responsible for selecting, prioritizing and approving operating and maintenance tasks in the system management areas (SMA) of a department according to their resources. The task budget is granted by the system steering group (SSG) to the SWG after the group IT committee (G-ITC), the ultimate IT decision board, has approved the budget for the SSG.

While the SWG governs the SMA dimension of one or more departments, the SSG governs the development projects (P) dimension of one or more departments. The SSGs draw up, prioritize and suggest the list of projects to be developed, representing the interests of a specific business area in terms of IT systems, for the coming year to the group IT committee (G-ITC). There are 21 SSGs covering the 38 departments. Members of a SSG are the development manager (DM) of the department or departments that are governed under the specific SSG, the development director (DD) of the development area that the department belongs to, other development directors from other development areas that are interrelated, business representatives from the business areas (BA) that the department supports with their IT systems, and the CIO (in 10 out of 21 SSGs). The project portfolio management office (PPMO), consisting of project portfolio managers, is responsible for gathering the lists of prioritized projects from the different SSGs and provides a consolidated list of projects to the G-ITC. The G-ITC consists of the chief operations officer (COO) of the organization, a member of the executive board, the chief financial officer (CFO), the chief information officer (CIO), two further members from the executive board representing other parts of the organization and a representative of the business development area. This is the final approval body of the IT group and is in charge of project prioritization and budget approval across SSGs.

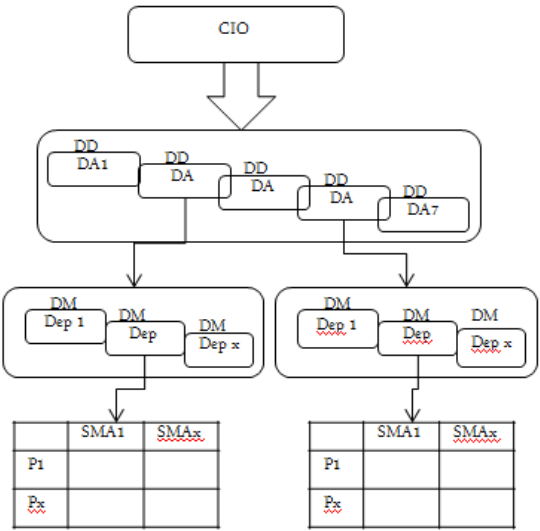


Figure 1. Group IT Organizational Model

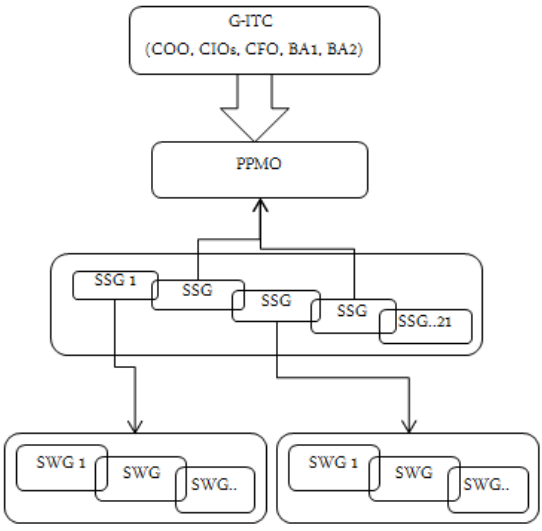


Figure 2. Group IT Governance Model

The outcome of the project prioritization process is a list of all approved IT projects that will run in the coming calendar year. Within the organization, the project prioritization process and its outcome, the list, are referred to as the development plan. The development plan is created once a year and is updated three times a year, in quarter 1 (Q1), quarter 2 (Q2), and quarter 3 (Q3) by the SSGs and the G-ITC.

The development of the development plan takes place in two different levels: First on the SSG level where projects from a specific area are gathered and prioritized and second, on the G-ITC group level where all the prioritized lists from all the SSG are consolidated and the budget is distributed across the different SSGs. The timeline of the development plan is shown in Table 1 and Table 2.

The development plan is driven by a business roadmap. A business roadmap is a long-term plan in which each SSG states and visualizes the business-oriented strategic direction for a three-year period. During Q1, Q2 and Q3 meetings the SSGs receive an update on the progress of the development plan as well as changes, problems or delays and react by reprioritizing as necessary. Moreover, in these meetings, the members of the SSG collectively go through the business roadmap and align their own roadmap according to the strategic focus areas as determined by the G-ITC. The development manager, who serves as the secretary of a SSG, is responsible for driving the development of the SSG

development plan. In the 3rd quarter SSG meeting, the members approve their roadmap and the development manager presents a draft of the development plan for discussion.

	1 st Meeting (February-March)	2 nd meeting (May-June)	3 rd meeting (August-September)	4 th meeting (September-October)
SSG agenda	Update of the current development plan (Q1).	Update of the current development plan (Q2). Roadmap alignment.	Update of the current development plan (Q3). Roadmap Approval.	Approval of development plan for following year and delivery to PPMO.

Table 1. Timeline of the development plan at the SSG level.

Once the SSGs have approved the development plan for the following year, the list is forwarded to the project portfolio managers at the PPMO. All projects are inserted into a spreadsheet, along with information such as net present value, cost, number of employees, benefits, time schedule, sub-deliveries, project phase, releases, business drivers and strategic focus area for each project in the development plan.

The G-ITC meets up to six times per year. The development plan is updated four times per year. Each quarter there is an update meeting on the progress of the development plan of each SSG. Budget changes are approved or denied and projects are reprioritized if necessary. Two further meetings are conducted in which the agenda includes defining strategic focus areas and approving business roadmaps. In the first meeting, the members of G-ITC are required to define the strategic focus areas that, once communicated to the development areas and SSGs, will drive business roadmaps and the new development plan for the coming year. The second meeting involves approval of the business roadmaps from all SSGs and their alignment across SSGs as necessary.

In the last meeting of the year, the members of G-ITC decide on the prioritization of the projects across SSGs. During the meeting, all SSG chairmen, together with the development directors relevant to the SSG, give a half-hour presentation in which they argue and explain why the organization should invest in their SSG and approve projects that they have proposed.

	1 st Meeting (March)	2 nd meeting (May)	3 rd meeting (June)	4 th meeting (August)	5 th meeting (September)	6 th meeting (October)
G-ITC agenda	Update of the development plan (Q1).	Half-year update of the development plan (Q2).	Strategy and focus areas.	Update of the development plan (Q3).	Business road maps.	Prioritization of development plan for next year.

Table 2. Timeline of the development plan at the G-ITC level.

The total budget for the development plan for the coming year has already been indicated before the meeting by the executive board of the organization. This has an impact on the prioritization and decision making process of the decision makers who distribute it to the projects of the different SSGs.

4 Methodology

This study is an interpretive and explorative case study of an IT project prioritization process. It was conducted for a period of eight months and occurred simultaneously with the organization's project portfolio process, consisting of the evaluation of ongoing projects, initiation and monitoring of new projects, as well as the various project prioritization activities described in the preceding section such as generating project ideas, developing business cases, and producing partial development plans and the final development plan.

Although the study was informed by the IS evaluation literature, we employed a very open approach, given the largely unexplored nature of the phenomenon. The study design was not strictly defined in advance and we followed an evolutionary, iterative approach in which the activities of data collection and analysis were conducted in synchrony and supported each other throughout the process. That is,

the data collection and the analysis and interpretation of data were overlapping activities that influenced and fed into each other, both driving the process and approach that led to the results presented later.

To understand the IT project prioritization process, we first conducted semi-structured interviews with stakeholders from different levels and units of the organization. This provided us with personal views of the current prioritization process, its context and the organizational history with regard to the process. Two key stakeholders of the process were identified. First, the IT unit that owned the project prioritization process and executed the prioritized projects. Nine interviews were performed with stakeholders from this IT unit at various levels of seniority. Second, the business units that were responsible for product-related functions and actively involved in the project prioritization process. Eight stakeholders from different levels of the business units were interviewed. Table 1 presents the levels of the interviewees and their involvement in the project prioritization process.

Areas	Input to the process	Participate in the process	Impacted by the process	Decision Power
IT unit				
1 CIO	x	SSGs, G-ITC	x	x
3 Directors	x	SSGs, G-ITC	x	x
3 Managers	x	SSGs	x	x
2 PPMO Managers	x	G-ITC		
Business Units				
2 Directors	x	SSGs, G-ITC	x	x
4 Managers	x	SSGs	x	x
2 Brand managers	x		x	

Table 3. Number of interviewees from each unit, their title and involvement in the process.

Second, to extend understanding of the actual project prioritization practices, we observed meetings in which the participants were required to produce a prioritized list of projects. The meetings were recorded and transcribed by the first author. Specifically, we followed two SSGs and participated in their 3rd and 4th meetings. We collected material from all the meetings in table 1 and 2 such as meeting minutes, presentations given at the meetings and reading material that was sent to the SSG members. These observations led to a follow-up round of 8 interviews and a review of further background material. These follow-up interviews were also semi-structured and were carried out with four participants from both SSGs and four participants from the G-ITC meetings. Further background material was collected, including other prioritization documents, forms, spreadsheets, reports, organization charts and memos. This documentation was studied in order to gain further knowledge of the organization's current prioritization processes and to triangulate observations and insights from the interviews and the meeting observations. The data analysis applied opening coding inspired by grounded theory (Strauss & Corbin 1998; Hansen & Kautz 2005). This led to the themes and concepts which are described in the following section.

5 Results and Analysis

In the preceding section we presented the official IT project prioritization process as described by company documents. In this section, we show how the IT project prioritization process is actually carried out in practice and analyze the IT project prioritization process that has as an output the development plan for the coming calendar year.

5.1 IT project prioritization at the SSG level

There is no official process for how the development managers should gather project ideas. Instead, it depends on each individual development manager and their personal approach. In our sample, one of

the development managers made a call to the department and the business areas for new project ideas and old projects not prioritized so far.

We start by compiling data on the projects that are running and system management that is also running, of course that's something that needs to be in the plan... then what we do is to involve the whole department here... to come up with ideas, new ideas or maybe old ideas that haven't been realized yet. So we [the managers] made what you could call a call for proposals and of course also to all our stakeholders... So we got a lot of proposals, then we made a gross list of new projects that could be taken into consideration and we made an assessment if we didn't have one before, then we made a gross assessment of the involved cost and the resulting benefit for that project. (Manager 1¹)

The other department followed a more centralized process. Input was given by the SWGs and the development manager based on the roadmap and strategic guidelines decided in the earlier SSG meeting.

As the secretary of the SSG I make the draft, but I gathered the information mainly from the SWG members and all the history there and it is gone through with the SSG members, and of course also with the system areas here but the main, you could say, the real fat, is that at every SSG meetings we have the high level road maps that are revisited every time and these are actually the overall guideline for the development plan. (Manager 2)

The draft list of the development plan is communicated to all the SSG members before the 4th SSG meeting, in order to reach consensus between the different parties and members of the SSG. As one of the managers explains, it is a common belief that an agreement on the project prioritization is reached before the meeting.

You need to be prepared when you come to those meetings and it is also expected that we have cleared the views with the main stakeholders, so we don't start off by not being aligned at all, we do prepare ourselves in a way that if we can resolve it before then it is the best... That really means that we can move on when we go to the SSG meeting. (Manager 1)

The interviewees agreed that the following criteria are used to prioritize projects in the development plan for a SSG:

1. Projects that are already running and will continue to run in the coming year.
2. Compliance projects required by legislation or necessary to run the business.
3. Projects that are part of a bigger program running in the organization
4. Net present value, pay-back ratio of the project, projects that promise high profit.
5. Strategic projects that drive the business in a specific direction according to the strategy.

This is what you could call a multidimensional problem ... Pay-back ratio, G-ITC focus areas and strategic directions of the department, those three are the most important [criteria]... (Manager 1)

...the ongoing projects, they will always be in the top of the list. The bargaining is on the new projects coming in, the bases of the prioritization is the discussion with the SWG members, where also the system areas are a part of and the alignment to other programs that are running in the bank, i.e. [project A] which, evaluated on its own merits, it would be much further down, but due to the fact that it is a link in a chain in a huge program, it moves up due to the prioritization and the benefit of the whole program... (Manager 2)

The IT department provides the calculation of costs, while the business area provides the assessment of benefits. However, there is no standardized method for establishing what should be included in the cost/benefit calculations. We observed many times in the meetings that benefits and costs calculations were challenged and questioned. From our observations such discussions were focused on the projects

¹ All interviewees, applications and projects that could reveal the company's identity are codified.

that were at the bottom of the list. These projects risked being cut off or excluded by the G-ITC when they cross-prioritize between the different SSGs. As one of the managers says:

There is a saying, it's called 'if the project is above or beneath the line'... So, we might think that the line is here and we have these 10 projects, but if for some reason the line is moved up or down it is very, very important that the SSG knows which are the 2 – 4 projects that are just around the line that you would actually go for or cut out. (Manager 2)

The list of proposed projects exceeds usually the numbers of the projects that a department can carry out with its current employees. This introduces two types of constraints: a capacity constraint and a competency constraint. The capacity of a department defines the projects that can be run with the existing or planned full-time employees creating an invisible line in the development plan. The capacity constraint is addressed by hiring new employees. However, hiring new employees will not ensure the required domain knowledge, as new employees need time to learn the new systems. This lack of domain knowledge is called the competency constraint and it is a major constraint for a department and its ability to scale up in term of employees. The following quote shows how a project received a higher priority when a future competency constraint was taken in account in a SSG meeting:

When you look at the people that know [domain knowledge] about Project B, they are one or two years away from retiring both in the business side and here [at the IT organization]. So if we delay this any longer then it is not the same cost as we have projected now. Then the cost will rise because we need to educate people all over to get this conversion going. (Manager 3)

Another constraint is the platform or system capacity constraint. A department might have employees who have the competence to run the project, but the test system is not free because another project is using it.

... it's a limited capacity, all the [abc] projects go to the same platform and the same resources[employees]... it might be that we have the resources, but due to configuration management for testing we couldn't put it in, but if we had separate platforms we will be able to scale more than we would in one platform... (Manager 2)

Although there are several constraints that limit the number of projects a department can develop, the SSGs are required to present a development plan with all the projects they had without taking the constraints into account. In practice, one of the SSGs we were following sent only the projects that they could make from a capacity perspective to the G-ITC. However, in this way, the G-ITC misses the opportunity to prioritize other projects not on that list.

5.2 Project Portfolio Management Office (PPMO)

The interdependencies amongst different departments and development areas make the prioritization of projects in the development plan even more complicated. Departments are required to be sub-suppliers for projects that are in other areas and are not always aware of the exact resource requirements until all the development plans are consolidated. In this phase of the process, the PPMO requires specific information from the SSGs about each project in their development plan. This information is analyzed by the project portfolio managers and forwarded to the G-ITC members. The analysis includes the composition of the project portfolio in terms of business drivers, the composition of the projects' costs and benefits in terms of project phase and the composition of projects' costs and benefits per SSG category. The project portfolio managers also create a report for the G-ITC members, which includes information about all the projects suggested by each SSG, such as priority, strategic focus area of the project, project name, total cost, net present value in 2 years and in 5 years, releases and a short project description. It is only when this information is entered from all SSGs that the development managers have an overview of their sub-deliveries to other departments. Moreover, the report given to the G-ITC members includes Net Present Value (NPV) only for the first release of the project. The NPV calculation for the ensuing releases is not available.

5.3 IT project prioritization at the IT group level (G-ITC meeting)

The analysis of the project portfolio and the report with detailed information on each project is forwarded to the G-ITC members one week before the prioritization meeting. This final meeting of the G-ITC consists of two phases: first, the chairmen of the each SSG give a half-hour presentation for the G-ITC where they argue for their development plan; second, a private meeting takes place between the G-ITC members in which they determine the final prioritization across SSGs. The SSG chairmen view their half-hour presentations of the development plans as a sales presentation. During the presentations, the chairmen are challenged by the committee members on the number and priority of the projects, and afterwards the committee members gather and discuss the budget distribution among the SSGs and their projects.

We found that during the prioritization phase the financial benefits are not used as an argument because the members of G-ITC we interviewed do not believe either in the way the benefits are calculated nor in the amount of benefits they are claimed to provide. On the other hand, we see that non-financial arguments as i.e. strategic directions both in term of broader strategies and departmental strategies and competition are used frequently. As one of the members of the G-ITC reported:

“Strategy” and “competition” were the words most used; [financial] benefits were almost not used. ... If [the members of G-ITC and the chairmen presenting] had focused too much on the benefits I would have reacted. I don’t believe our benefits calculations. ... typically they are overstated, they are not worded in a way where you can actually do a follow up. As long as whoever is presenting knows that there is not going to be a follow up, that it is a free lunch just to argue that by having this product we can sell x million and with a margin of y. So it is lack of trust, lack of confidence [towards the benefits]. It is more a question of believing whether the IT project is the right solution or not rather than just trusting a benefit calculation. So, no time was spent on benefits, nothing, at all. (G-ITC member 1)

The same G-ITC member continued: *“When it comes to more infrastructure... IT projects ... then we just need to trust the presenter and I would also trust that the SSG would give me a prioritization where they have looked into the benefits not by calculation but by their knowledge, so I would trust their prioritization.”*

One of the members of G-ITC describes the process of prioritizing IT projects in this way:

[Project prioritization] was more intuition than hard facts. It is more a decision based on soft information, discussing what our appetite for this area is and not really looking at the total benefits that this area provides. For example, we don’t earn any money on [application X], it was a decision based on the soft intangible benefits or intuition that [application X] would put us in front of our competitors. Now, everybody is talking about it... it is the soft information and intuition if customers would like this product or what is the appetite for products from a specific area, do we want to be strong in the area or do we just want to follow our competitors? (G-ITC member 3)

Another member of the G-ITC refers to application X, underlining the use of intuition and the limitations of hard benefits because of the subjective nature of prioritization:

We are not making any money on [application X], but on the other hand we have had the best publicity in the last three years. Therefore, this is not looking very attractive from an IT investment point of view, but if this can turn the total look of the company around than it is probably the best investment we have ever done. So, in that perspective there are many ways to discuss the costs/benefits and therefore it is quite difficult to have one individual way of doing this, so we from different business perspectives argue why these products or areas are important. (G-ITC Member 2)

While the members of the G-ITC agree that hard facts provide a good basis for discussion, they value intuition and trust among colleagues more. One manager explains this as follows:

[The reports from the PPMO] provide a security of having almost the same level of information, how does it look when you look across the total portfolio, so therefore to have that understanding ... if we take this down, what does that actually mean [for other depended projects in other SSGs]. I wouldn't be able to do that without having the description of the projects [in the reports]... You need to have some hard data, evidence, to show that you know and understand your business... But I am really confident that this is the right decision when I hear the soft parts around it, the logic behind it. The people really convincing me are [the ones that] make me feel in my stomach that they know what would this mean when this [project] goes out and try and implement it. (G-ITC member 2)

In this context, the G-ITC members were generally very positive about the presentation activity, where all the chairmen of the SSGs present and defend their development plans. The use of the half-hour of presentation time is considered very valuable as an opportunity to challenge the chairmen on the development plan they have prepared and to ask questions. In this phase, the G-ITC members asked a lot of questions such as “If we have to cut your SSG budget, which project should we remove, should we go from the bottom of the list or are there specific projects that should be cut off?”

Specifically, one of the G-ITC members reflects on the importance of the presentations from the SSGs:

I would say that probably 70 percent of my notes and reactions [this project shouldn't be prioritized or could wait for next year] were made during the presentations. I would guess that 30 percent I could have made in advance just by reading the headlines and the notes and seeing that this is something that I like and this I don't like. It was definitely based on the words that came from the mouth of the people presenting. They might not know and not realize it. It was worthwhile... (G-ITC member 2)

6 Discussion

In the previous section, we presented the findings of our case study. We now discuss these findings and their impact on the prioritization process.

The results show that in the absence of a formal process, there are informal ways of generating and collecting project ideas. These informal approaches differ from department to department. This influences the mix and the number of the projects that will be considered for prioritization because the search and collection process of IT project ideas is different. The literature on decision-making supports our observations that people rely on their intuition to simplify their choices (Dane & Prat 2007).

We found that there are three types of constraints that limit the number of projects and the type of projects that a department can carry out. These constraints make the process of IT process prioritization highly contextual. As such, the decision makers must be aware of the constraints of each department, as well as the number and the type of projects these departments can carry out.

Benefit calculations, an output of IS evaluation, are not used as an argument for prioritization even though it is stated as one of the criteria for project prioritization. This indicates that decision makers do not believe in these benefits and that the role of financial benefits is deemphasized during the prioritization process. According to March (1995), “Numbers presuppose a concept of what should be measured and a way of translating that concept into things that can be measured.” Instead, he views “the pursuit of truth as a sham” where “decision makers find it possible to “discover” a truth that happens to be consistent with their own interests.” The benefits are characterized as “overstated” and “free lunch” as managers tend to find many benefits in projects they already believe in, especially as they know there will be no follow up on the benefits they claim. Thus, more transparent and standardized benefits calculations might increase the decision makers’ belief in and consideration of the benefits during the prioritization process.

Intangible benefits are identified as very important in the IT project prioritization process, but identifying and measuring intangible benefits is difficult (Brynjolfsson 1993) and managers still struggle with it. Our study shows that intangible benefits are not calculated, nor included in the reports that G-ITC members receive, but are instead verbally communicated during the presentation phase. Their estimation is highly subjective, resulting in managers relying on intuition to prioritize projects. Brynjolfsson's (1993) statement that "it is possible that the benefits of IT investment are quite large, but that a proper index of its true impact has yet to be analyzed" is certainly valid in our case organization.

The process of IT project prioritization as described by the interviewees is mainly based on intuition and trust. Intuitions about which projects sound interesting and could appeal to customers are the main drivers for project prioritization. Trust plays an important role as well, as trusting colleagues means trusting their data calculations. According to Bannister & Remenyi (2000), it is the current lack of existing evaluation methods that incorporate intangible benefits and processes that force decision makers to decide on IT-related matters based on 'gut feeling'. However, based on Dane & Prat (2007), it is the subjectivity and the contextual nature of the problem, in this case IT project prioritization, which demands intuitive decision making.

Decision makers regard the presentation activity, in which all chairmen present their development plan, very positively. The presentations can be understood as a form of contextual inquiry which is a more specific form of ethnography, with a focus on asking questions. The contextual inquiry provides a holistic view of project proposals which are assessed with an emphasis on context and, as such, it helps understanding the project settings (Holtzblatt et al. 1988). The method does not require prior domain knowledge on the part of the investigator. In our case, the investigators, the G-ITC members, they gained considerable contextual knowledge by asking direct questions of the chairmen of the SSGs.

7 Conclusion

Our study of IT project prioritization reveals the subjective nature of this process and the usefulness of contextual information in making sense of the dependences and complexities of project prioritization. Given that IT project prioritization is an understudied phenomenon, we conducted an interpretive and explorative case study in which we conducted interviews and observed meetings in which decision makers were required to exercise IT project prioritization. With this case study we investigated the nature of IT project prioritization and how evaluation and prioritization are interrelated.

Our research shows that in project prioritization a large amount of information must be gathered and analyzed both at the SSG level and at the G-ITC level. However, the interviews and the meeting observations show that intuition and trust are the elements that most impact the prioritization. Our results show that IS evaluation information such as costs and benefits, although required and produced, are not directly used in the final decision making process. The study supports the findings of previous IS studies (Howcraft & McDonald 2004, Cecez-Kecmanovic & Nagm 2008) that financial, rational methods are less appropriate. Also, in our case the output of these methods concerning costs and benefit calculations was not used as it was not considered trustworthy. Instead, contextual information and intangible benefits concerning such as the strategic importance of a proposed project or the trustworthiness of the manager proposing the project were however highly sought after by the decision makers. We conclude that IT project prioritization in our case organization is based in a mixture of instinct, faith and reason rather than on a purely rational approach. To provide adequate support for the prioritization process, we need further studies of the relationship between and the balance of intuition, trust and calculated hard data in the context of IT project prioritization as well as investigations of the role of intuition and trust in organisations where calculated data concerning costs and benefits are trusted metrics.

References

- Al-Yaseen, H. Eldabi, T. & Paul, R.J. (2004) "A Quantitative Assessment of Operational Use Evaluation of Information Technology: Benefits and Barriers". *Tenth Americas Conference on Information Systems*. New York, NY, USA.
- Archer, N.P. & Ghasemzadeh, F. (1999) "An Integrated Framework for Project Portfolio Selection". *International Journal of Project Management*, 17(4), 207-216.
- Bannister, F. & Remenyi, D. (2000) "Acts of Faith: instinct, value and IT investment decisions". *Journal of Information Technology*, 15(3), 231-241.
- Bunch D. S., Cardu s D., Fuhrer M.J., & Thrall R.M. (1989) "When are additive models valid for evaluating proposed research?" *Methods of Information in Medicine*. 28:168-177.
- Cecez-Kecmanovic, D. & Nagm, F. (2008) "Understanding IS Projects Evaluation in Practice through an ANT Inquiry". *Proceedings of the 19th Australasian Conference on Information Systems (ACIS)*, Christchurch, New Zealand.
- Dane, E., & Pratt, M.G., 2007, "Exploring intuition and its role in managerial decision making." *Academy of Management Review*, 32: 33–54.
- Doyle J.R. (1995) "Multi-attribute choice for the lazy decision maker — let the alternatives decide". *Organizational Behaviour and Human Decision Processes* 62, 87–100.
- Farbey, B., Land, F. & Targett, D. (1999) "Moving IS evaluation forward: learning themes and research issues". *Journal of Strategic Information Systems*, 8(2), 189-207.
- Holzblatt K., Bennet J. & Whiteside, J. (1988) *Usability engineering: our experience and evolution*. In M Helander (Ed) *Handbook of Human Computer Interaction*, 791-817. NY: North Holland Elsevier.
- Irani, Z. & Ghoneim, A. (2002) "Identifying, Managing, and Controlling Information System Costs: An Exploratory Case Study". *Eight Americas Conference on Information Systems*, 1231-1238.
- Irani Z. & Love P. E. D. (2001) "Developing a frame of reference for ex-ante IT/IS investment evaluation". *European Journal of Information Systems* 11, 74–82.
- Hansen, B. & Kautz, K. (2005), "Grounded Theory Applied – Studying Information Systems Development Methodologies in Practice". In *Proceedings of the Hawaii International Conference on System Sciences (HICSS-38)* 2005, Big Island, USA, January 3-6, 2005.
- Howcroft, D. & McDonald, R. (2004) "An Ethnographic Study of IS Investment Appraisal" *ECIS 2004 Proceedings*. Paper 55.
- March G. J. (1995) "A Premier in Decision Making: How decisions happen" Free Press, Edition 1.
- Martino J. P. (1995) *R&D Project Selection*. New York: Wiley.
- Maskell B. (1991) *Performance Measurement for World Class Manufacturing: A Model for American Companies*. Productivity Press, 733 USA.
- Lin, C. & Pervan, G. (2001) "Issues in IS Investment Evaluation, Benefits Realisation, and Outsourcing in Australian Organisations: Results from a Case Study". *4th Western Australian Workshop on Information Systems Research (WAWISR)*, 1-13.
- Lubbe, S. & Remenyi, D. (1999) "Management of Information Technology Evaluation – The Development of a Managerial Study". *Logistics Information Management*, 12(½), 145.
- Nagm, F. & Kautz, K. (2007) "It Doesn't Add Up: Why Financial Evaluation Methods are Inadequate in Appraising IS Investments". *ACIS 2007 Proceedings*. Paper 7.
- Oral M., Kettani O., & Lang P. (1991) "A methodology for collective evaluation and selection of industrial R&D projects". *Management Science*, 37(7):871-983.
- Powell, P. (1992) "Information Technology Evaluation: Is It Different?". *The Journal of the Operational Research Society* 43(1), 29-42.
- Remenyi, D. & Sherwood-Smith, M. (1999) "Maximise Information Systems Value by continuous participative evaluation". *Logistics Information Management*, 12(½), 14.
- Smithson, S. & Hirschheim, R. (1998) "Analysing information systems evaluation: another look at an old problem". *European Journal of Information Systems*, 7, 158-174.
- Strauss, A. & Corbin J. (1998) *Basics of Qualitative Research*. Sage Publications, London, UK.